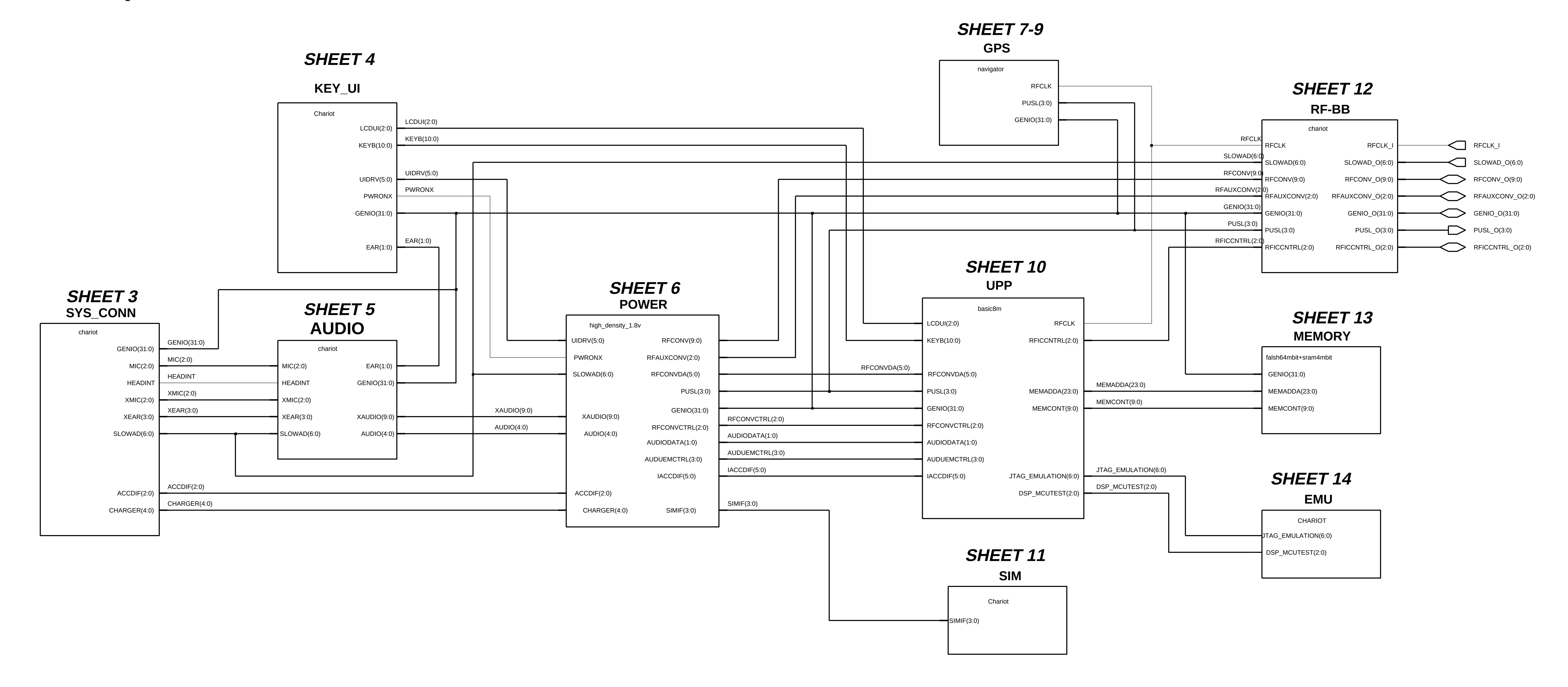
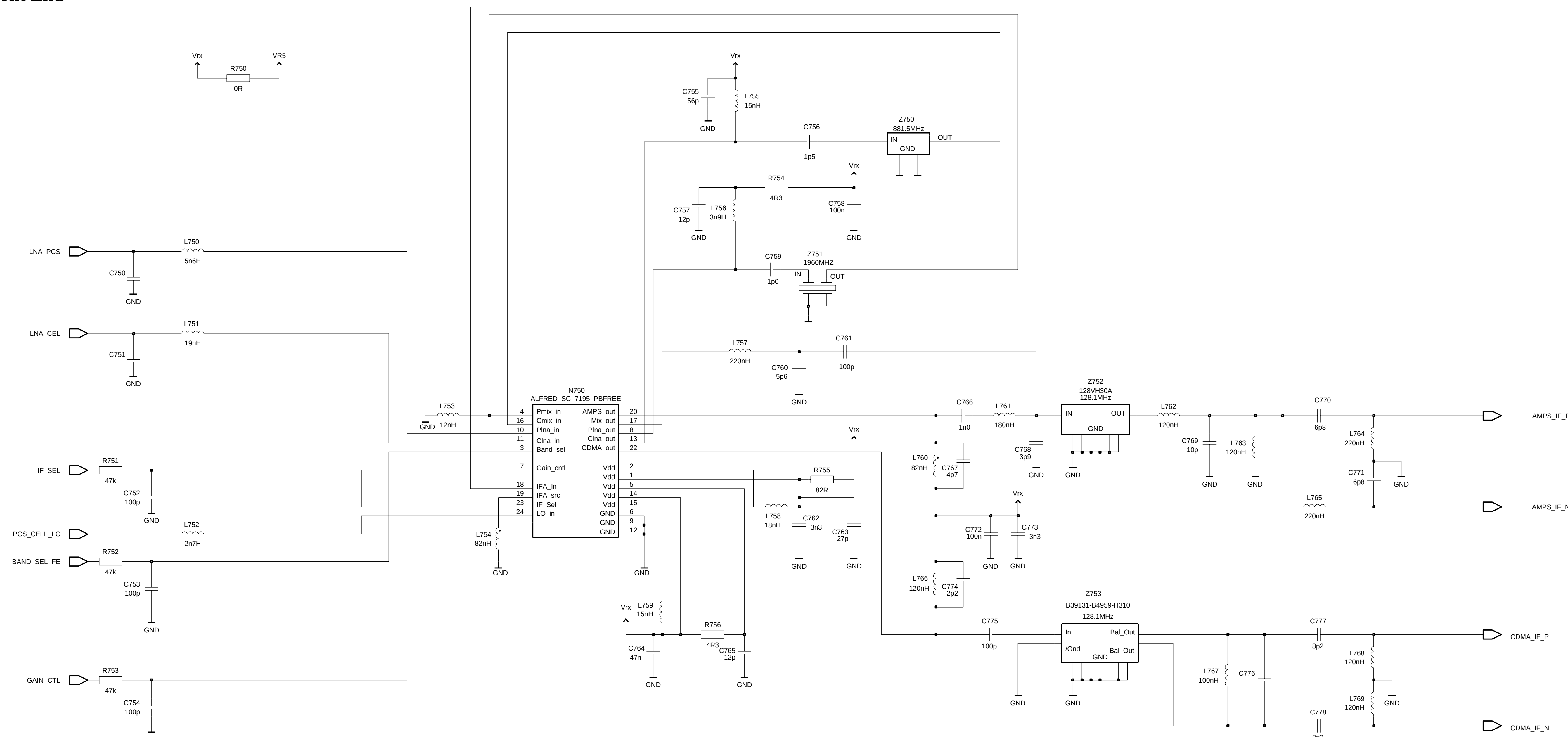
6015 Schematics

Baseband - Top



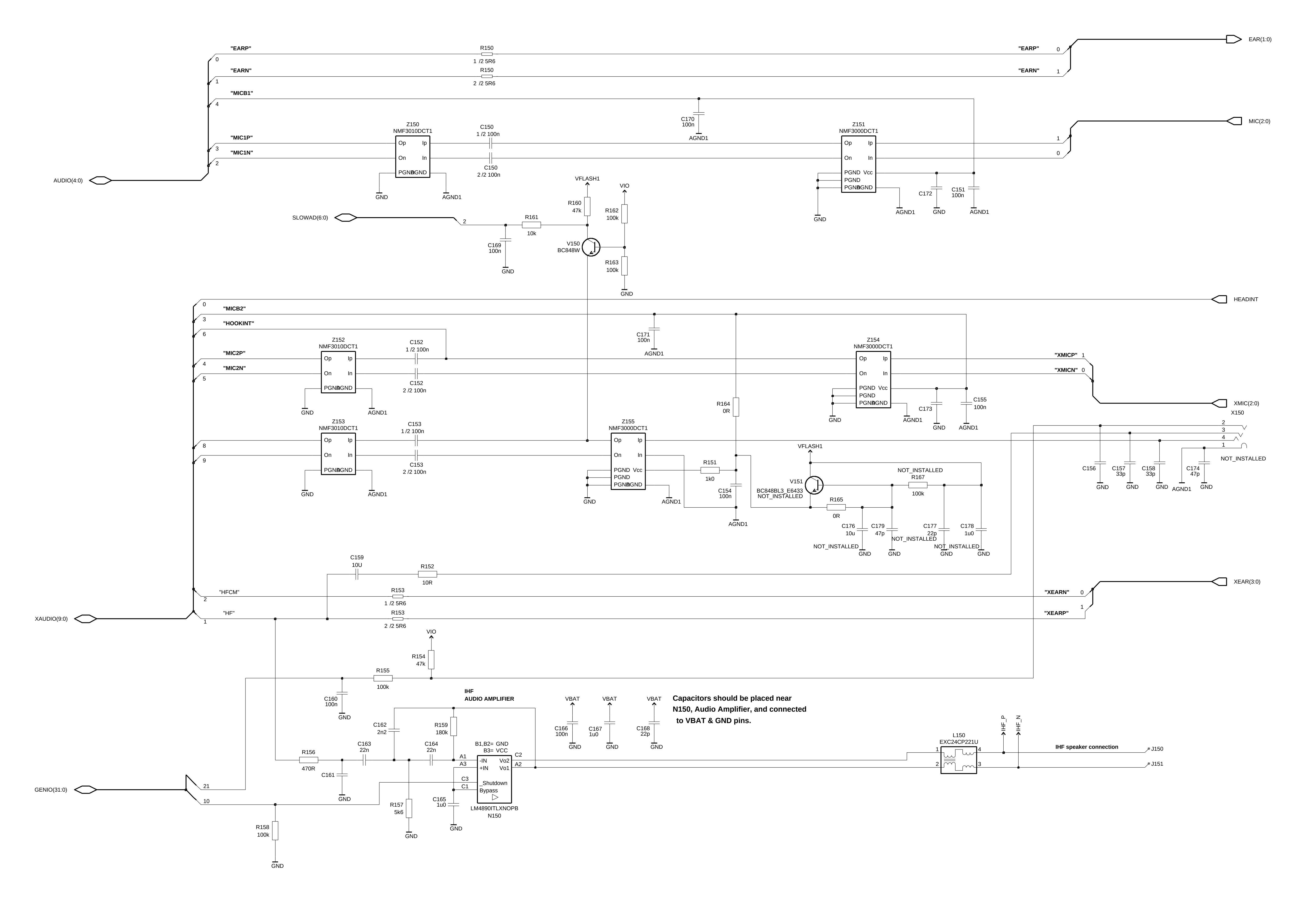
Front End



	LOGIC INPUTS		
MODES	BAND	GAIN_CTL	IF_SEL
CEL CDMA Hi Gain	0	1	0
CEL CDMA Lo Gain	0	0	0
PCS CDMA Hi Gain	1	1	0
PCS CDMA Lo Gain	1	0	0
AMPS Hi Gain	0	1	1
AMPS Lo Gain	0	0	1

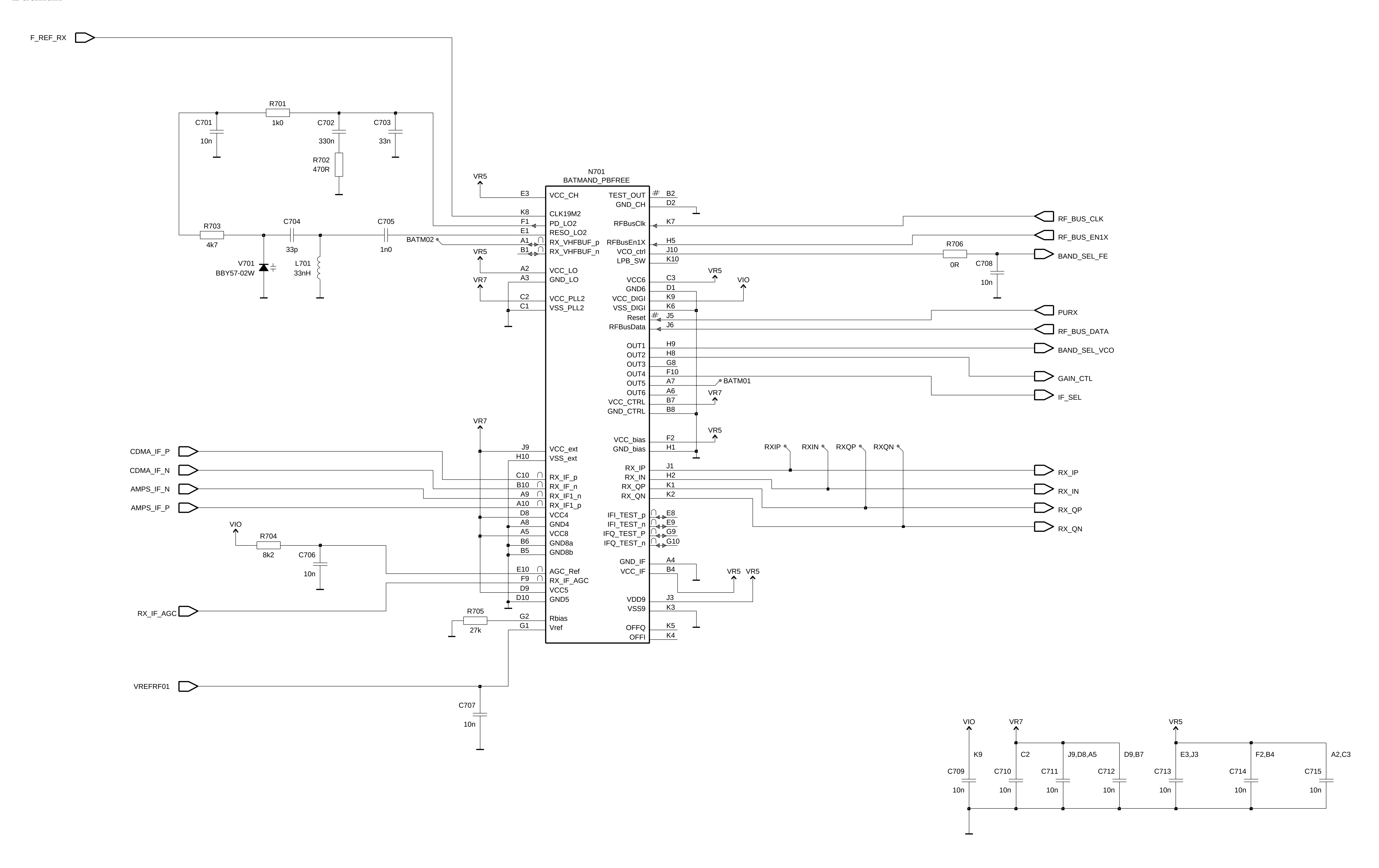
VARIANT DNI	
HDB91 800	**HDC93 1900**
C750 C759 L750 Z751	*C751 C756 C766 C768 C769 C770 C771 L751 L761 L762 L763 L764 L765 Z750 Z752*

Audio



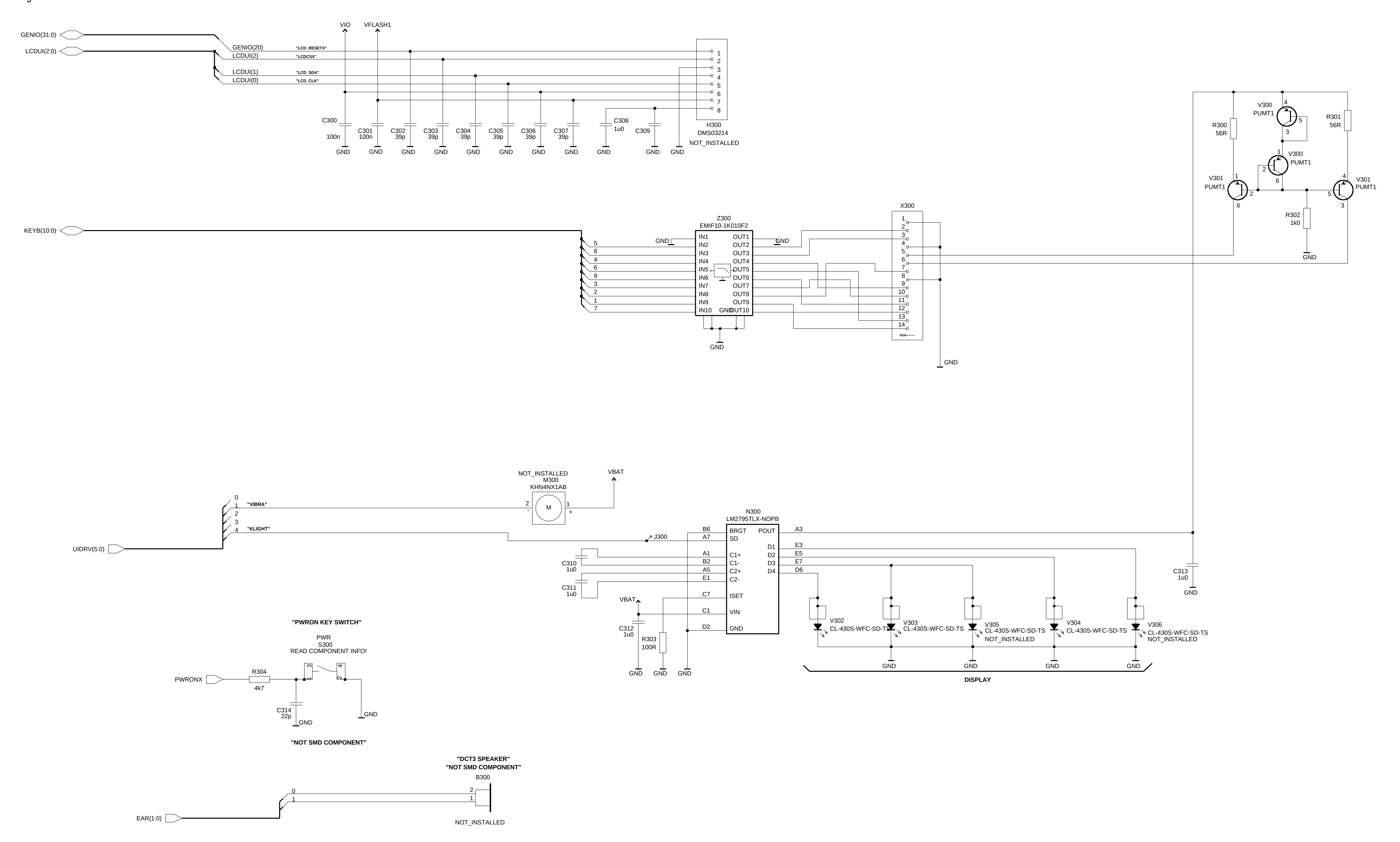
"EARP"
"EARN"
"MICB1"
"MIC1P"
"MIC1N"
AUDIO(4:0)
EAR(1:0)
MIC(2:0)
Z150
NMF3010DCT1
Z151
NMF3000DCT1
C150
1 /2 100n
2 /2 100n
R150
1 /2 5R6
2 /2 5R6
C170
100n
AGND1
C172
C151
100n
VFLASH1
VIO
R160
47k
R161
10k
R162
100k
R163
100k
C169
100n
V150
BC848W
SLOWAD(6:0)
HEADINT
"MICB2"
"HOOKINT"
"MIC2P"
"MIC2N"
Z152
NMF3010DCT1
C152
1 /2 100n
2 /2 100n
C171
100n
Z154
NMF3000DCT1
"XMICP"
"XMICN"
XMIC(2:0)
X150
C155
100n
C173
R164
0R
Z153
NMF3010DCT1
C153
1 /2 100n
2 /2 100n
Z155
NMF3000DCT1
R151
1k0
C154
100n
V151
BC848BL3_E6433
NOT_INSTALLED
NOT_INSTALLED
R167
100k
R165
0R
C176
10u
C179
47p
C177
22p
C178
1u0
C156
C157
33p
C158
33p
C174
47p
NOT_INSTALLED
C159
10U
R152
10R
R153
1 /2 5R6
2 /2 5R6
"HFCM"
"HF"
XAUDIO(9:0)
XEAR(3:0)
"XEARN"
"XEARP"
R154
47k
R155
100k
C160
100n
IHF
AUDIO AMPLIFIER
C162
2n2
R159
180k
C163
22n
C164
22n
R156
470R
C161
R157
5k6
C165
1u0
B1,B2= GND
B3= VCC
-IN
+IN
Vo2
Vo1
_Shutdown
Bypass
LM4890ITLXNOPB
N150
VBAT
C166
100n
C167
1u0
C168
22p
Capacitors should be placed near
N150, Audio Amplifier, and connected
to VBAT & GND pins.
L150
EXC24CP221U
IHF_P
IHF_N
IHF speaker connection
J150
J151
GENIO(31:0)
R158
100k
GND

Batman

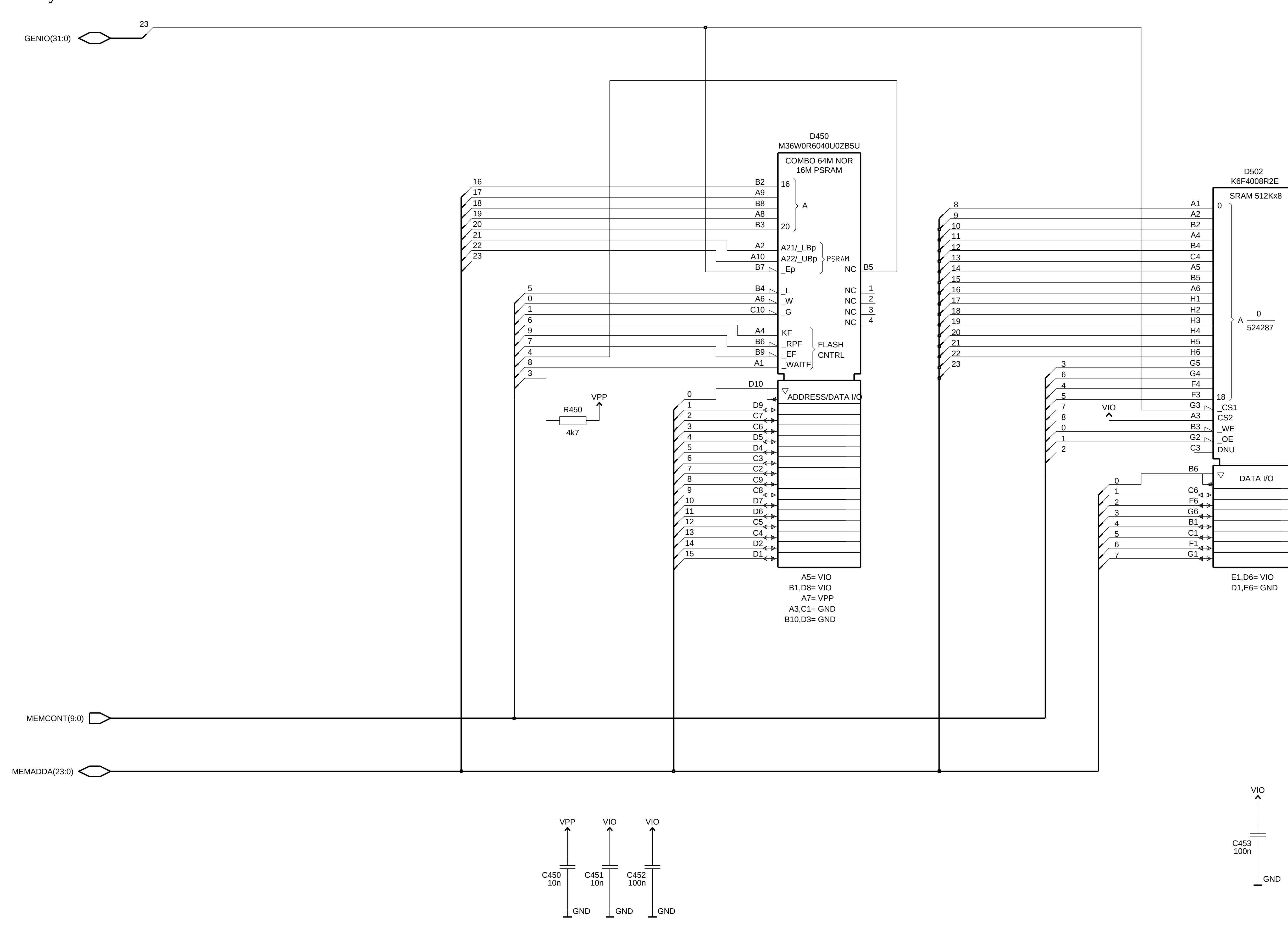


F_REF_RX
R701 1k0
C701 10n
C702 330n
C703 33n
R702 470R
N701
BATMAND_PBFREE
VR5
VR7
R703 4k7
C704 33p
C705 1n0
V701 BBY57-02W
L701 33nH
BATM02
BATM01
VCC_CH
CLK19M2
PD_LO2
RESO_LO2
RX_VHFBUF_p
RX_VHFBUF_n
VCC_LO
GND_LO
VCC_PLL2
VSS_PLL2
TEST_OUT
GND_CH
RFBusClk
RFBusEn1X
VCO_ctrl
LPB_SW
VCC6
GND6
VCC_DIGI
VSS_DIGI
Reset
RFBusData
OUT1
OUT2
OUT3
OUT4
OUT5
OUT6
VCC_CTRL
GND_CTRL
VCC_bias
GND_bias
RX_IP
RX_IN
RX_QP
RX_QN
IFI_TEST_p
IFI_TEST_n
IFQ_TEST_P
IFQ_TEST_n
GND_IF
VCC_IF
VDD9
VSS9
OFFQ
OFFI
VCC_ext
VSS_ext
RX_IF_p
RX_IF_n
RX_IF1_n
RX_IF1_p
VCC4
GND4
VCC8
GND8a
GND8b
AGC_Ref
RX_IF_AGC
VCC5
GND5
Rbias
Vref
RF_BUS_CLK
RF_BUS_EN1X
R706 0R
C708 10n
BAND_SEL_FE
VIO
PURX
RF_BUS_DATA
BAND_SEL_VCO
GAIN_CTL
IF_SEL
RXIP RXIN RXQP RXQN
RX_IP
RX_IN
RX_QP
RX_QN
CDMA_IF_P
CDMA_IF_N
AMPS_IF_N
AMPS_IF_P
R704 8k2
C706 10n
RX_IF_AGC
R705 27k
VREFRF01
C707 10n
C709 10n K9
C710 10n C2
C711 10n J9,D8,A5
C712 10n D9,B7
C713 10n E3,J3
C714 10n F2,B4
C715 10n A2,C3

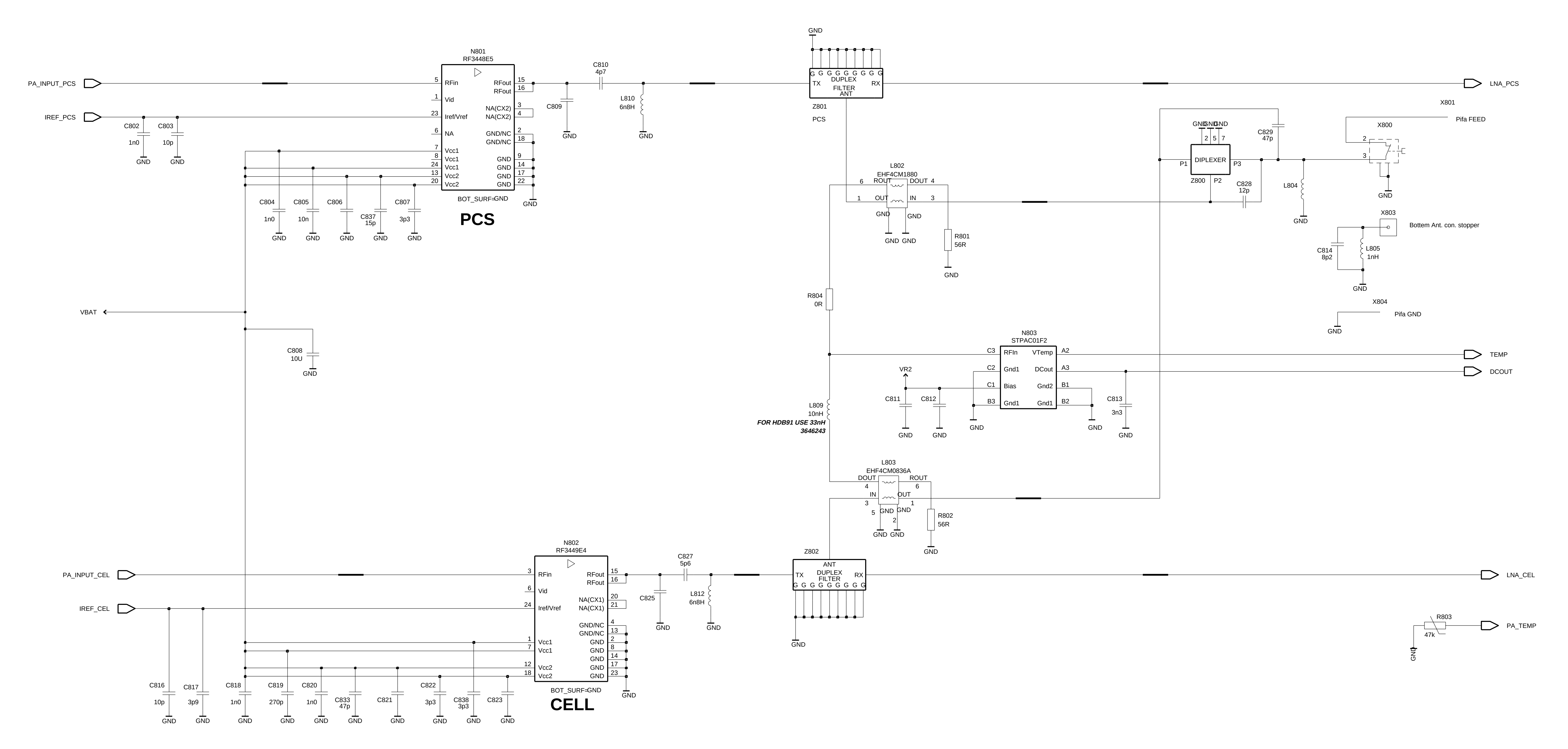
Key UI


GENIO(31:0)
LCDUI(2:0)
VIO
VFLASH1
GENIO(20)
LCDUI(2)
LCDUI(1)
LCDUI(0)
"LCD_RESETX"
"LCDCSX"
"LCD_SDA"
"LCD_CLK"
H300
DMS03214
NOT_INSTALLED
C300 100n
C301 100n
C302 39p
C303 39p
C304 39p
C305 39p
C306 39p
C307 39p
C308 1u0
C309
GND
KEYB(10:0)
Z300
EMIF10-1K010F2
X300
V300 PUMT1
V301 PUMT1
R300 56R
R301 56R
R302 1k0
NOT_INSTALLED
M300
KHN4NX1AB
VBAT
"VIBRA"
"KLIGHT"
UIDRV(5:0)
N300
LM2795TLX-NOPB
J300
C310 1u0
C311 1u0
C312 1u0
R303 100R
C313 1u0
V302 CL-430S-WFC-SD-TS
V303 CL-430S-WFC-SD-TS
V305 CL-430S-WFC-SD-TS NOT_INSTALLED
V304 CL-430S-WFC-SD-TS
V306 CL-430S-WFC-SD-TS NOT_INSTALLED
DISPLAY
"PWRON KEY SWITCH"
PWR
S300
READ COMPONENT INFO!
PWRONX
R304 4k7
C314 22p
"NOT SMD COMPONENT"
"DCT3 SPEAKER"
"NOT SMD COMPONENT"
B300
EAR(1:0)
NOT_INSTALLED

Memory

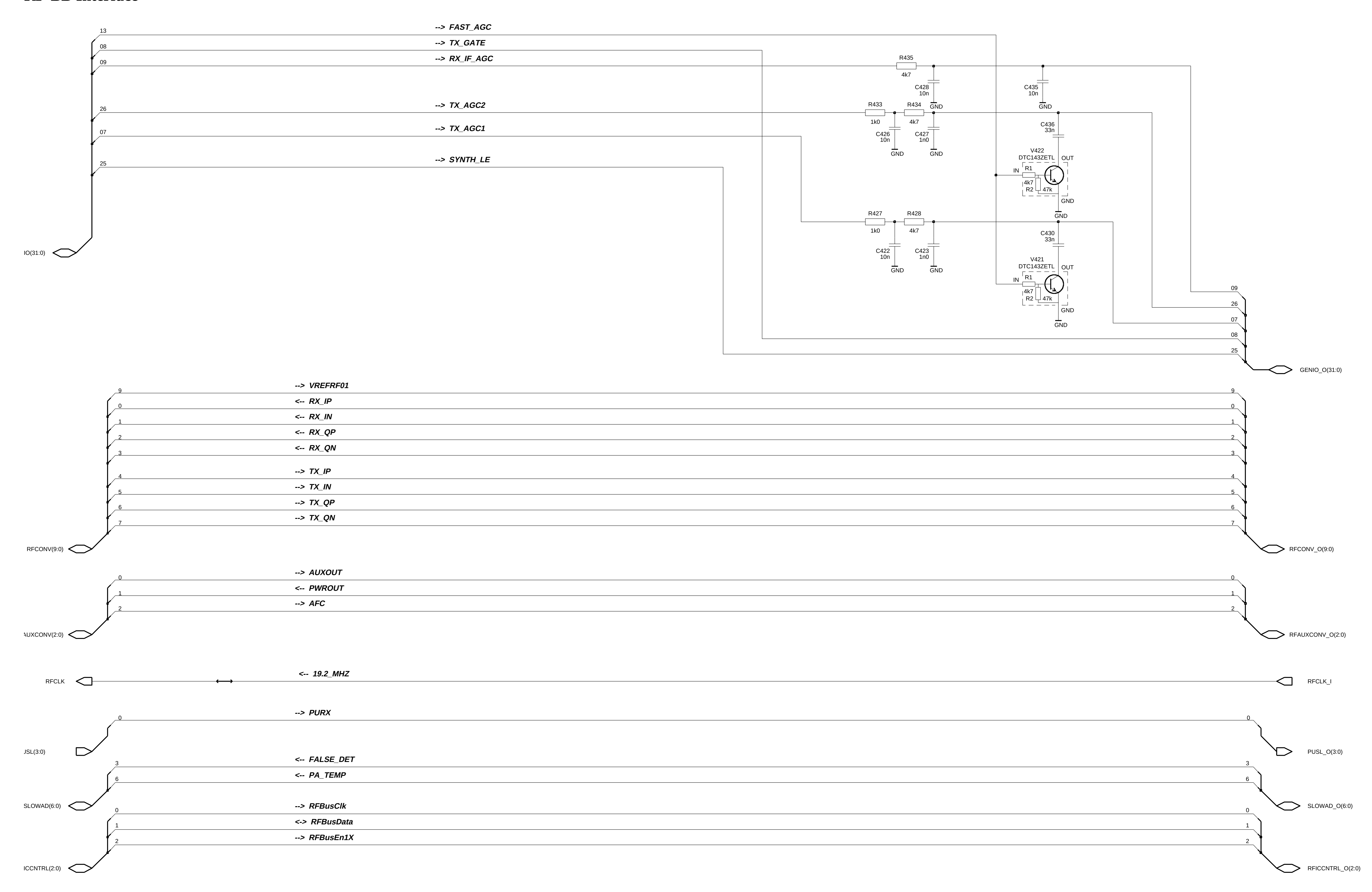

GENIO(31:0)
MEMCONT(9:0)
MEMADDA(23:0)
D450
M36W0R6040U0ZB5U
COMBO 64M NOR
16M PSRAM
FLASH
CNTRL
ADDRESS/DATA I/O
A5= VIO
B1,D8= VIO
A7= VPP
A3,C1= GND
B10,D3= GND
R450
4k7
VPP
D502
K6F4008R2E
SRAM 512Kx8
DATA I/O
E1,D6= VIO
D1,E6= GND
C450
10n
C451
10n
C452
100n
C453
100n
VIO
GND

PA

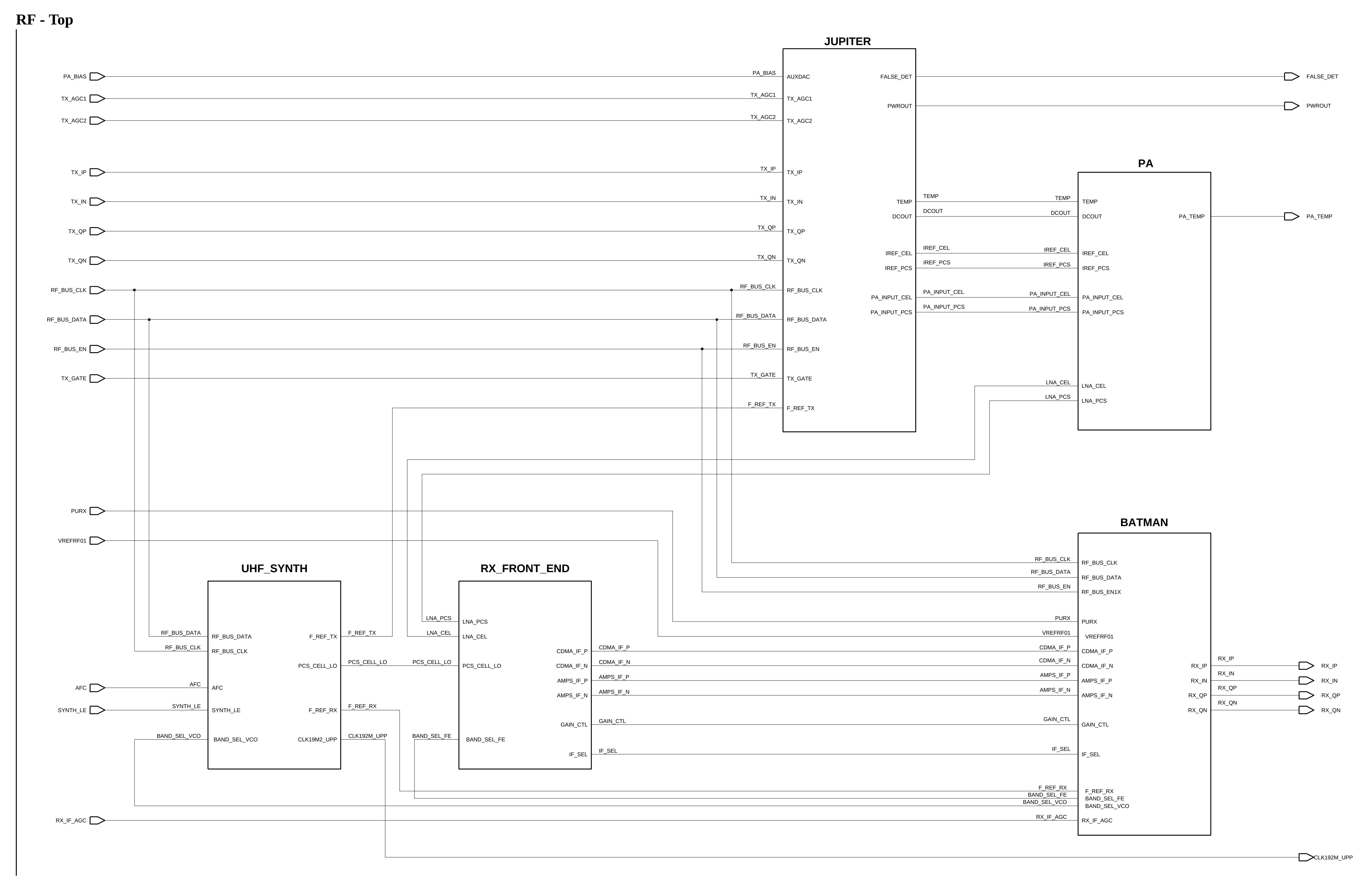


VARIANT DNI		
HDC91 DB	HDB91 800	HDC93 1900
C828	C802	C816
C829	C803	C817
	C804	C818
	C805	C819
	C806	C820
	C807	C821
	C809	C822
	C810	C823
	C828	C825
	C837	C827
	L802	C829
	L810	C833
	N801	C838
	R801	L803
	R804	L808
	Z800	L811
	Z801	R802
		Z800
		Z802

RF-BB Interface

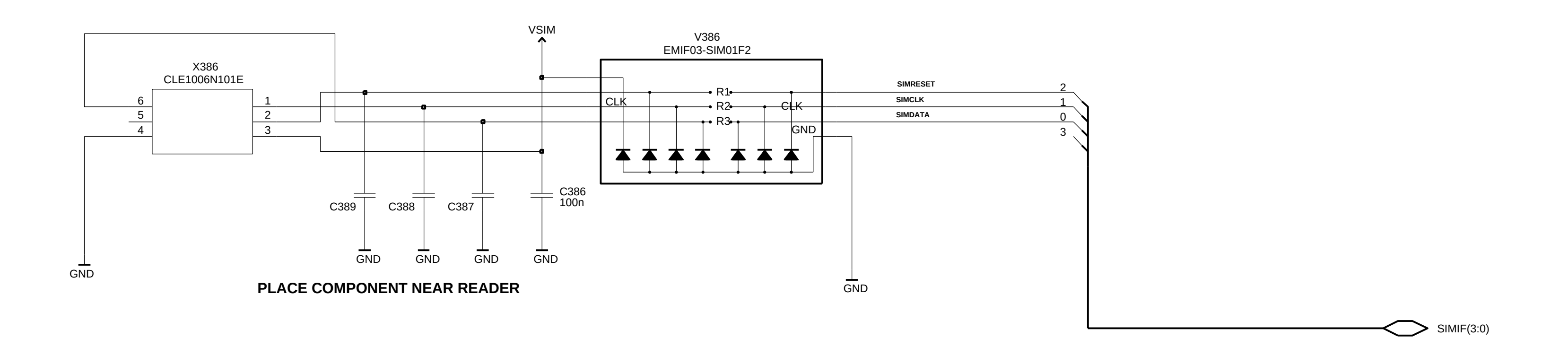


RF - Top

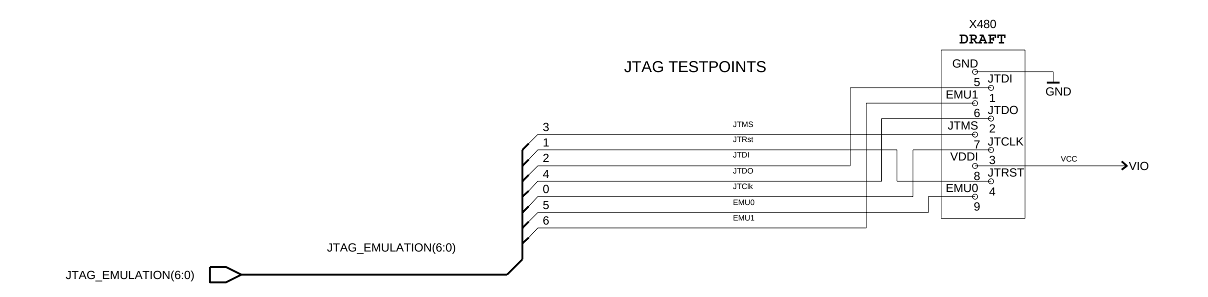


JUPITER
PA
BATMAN
UHF_SYNTH
RX_FRONT_END
PA_BIAS
TX_AGC1
TX_AGC2
TX_IP
TX_IN
TX_QP
TX_QN
RF_BUS_CLK
RF_BUS_DATA
RF_BUS_EN
TX_GATE
F_REF_TX
AUXDAC
FALSE_DET
PWROUT
TEMP
DCOUT
IREF_CEL
IREF_PCS
PA_INPUT_CEL
PA_INPUT_PCS
PA_TEMP
LNA_CEL
LNA_PCS
PURX
VREFRF01
RF_BUS_EN1X
CDMA_IF_P
CDMA_IF_N
AMPS_IF_P
AMPS_IF_N
GAIN_CTL
IF_SEL
F_REF_RX
BAND_SEL_FE
BAND_SEL_VCO
RX_IF_AGC
RX_IP
RX_IN
RX_QP
RX_QN
AFC
SYNTH_LE
PCS_CELL_LO
CLK19M2_UPP
CLK192M_UPP

SIM



Test and Emulator Interface





System Connector

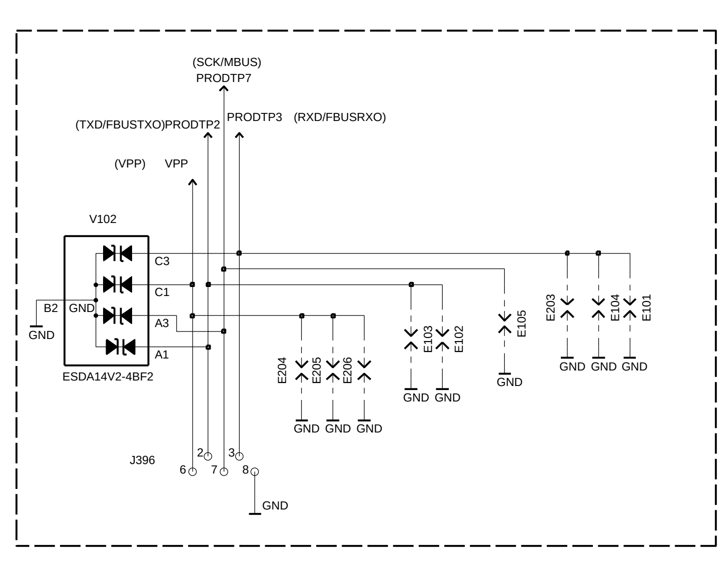
TEST POINTS FOR BATTERY

TOMAHAWK
BOTTOM CONNECTOR

Tomahawk
Charger connector

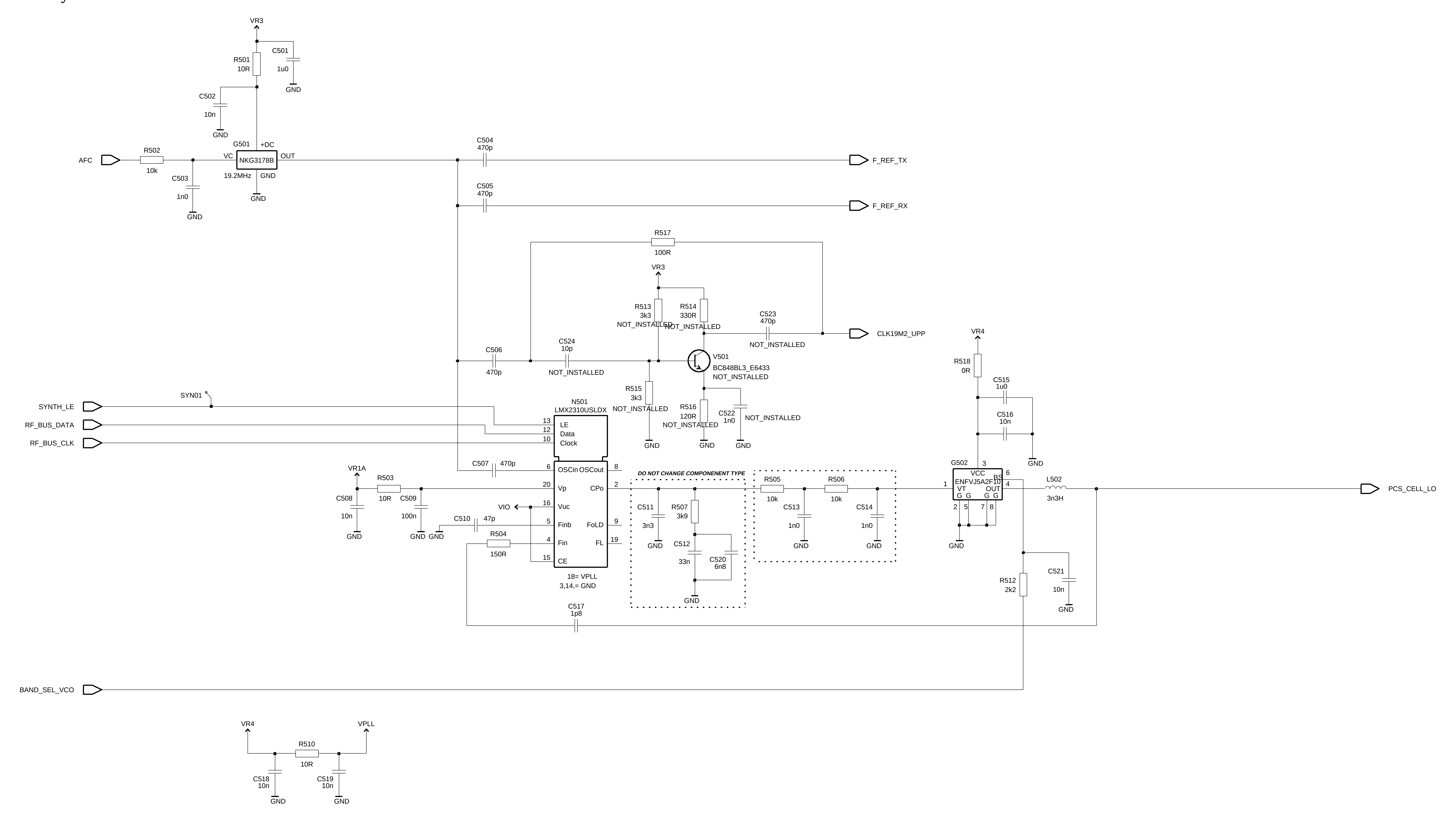
Tomahawk
System connector

Microphone contacts

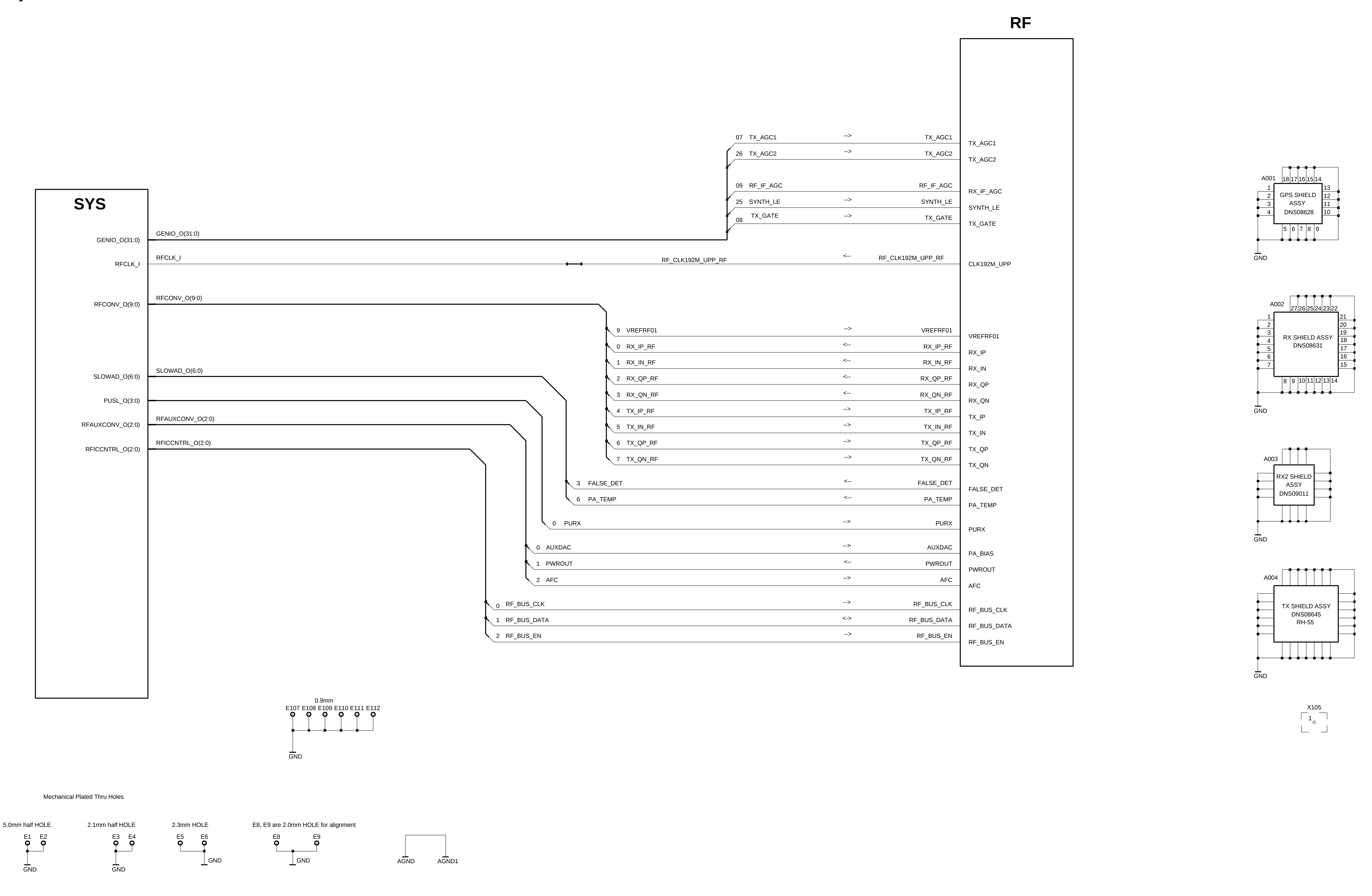


PROD TEST PATTERN

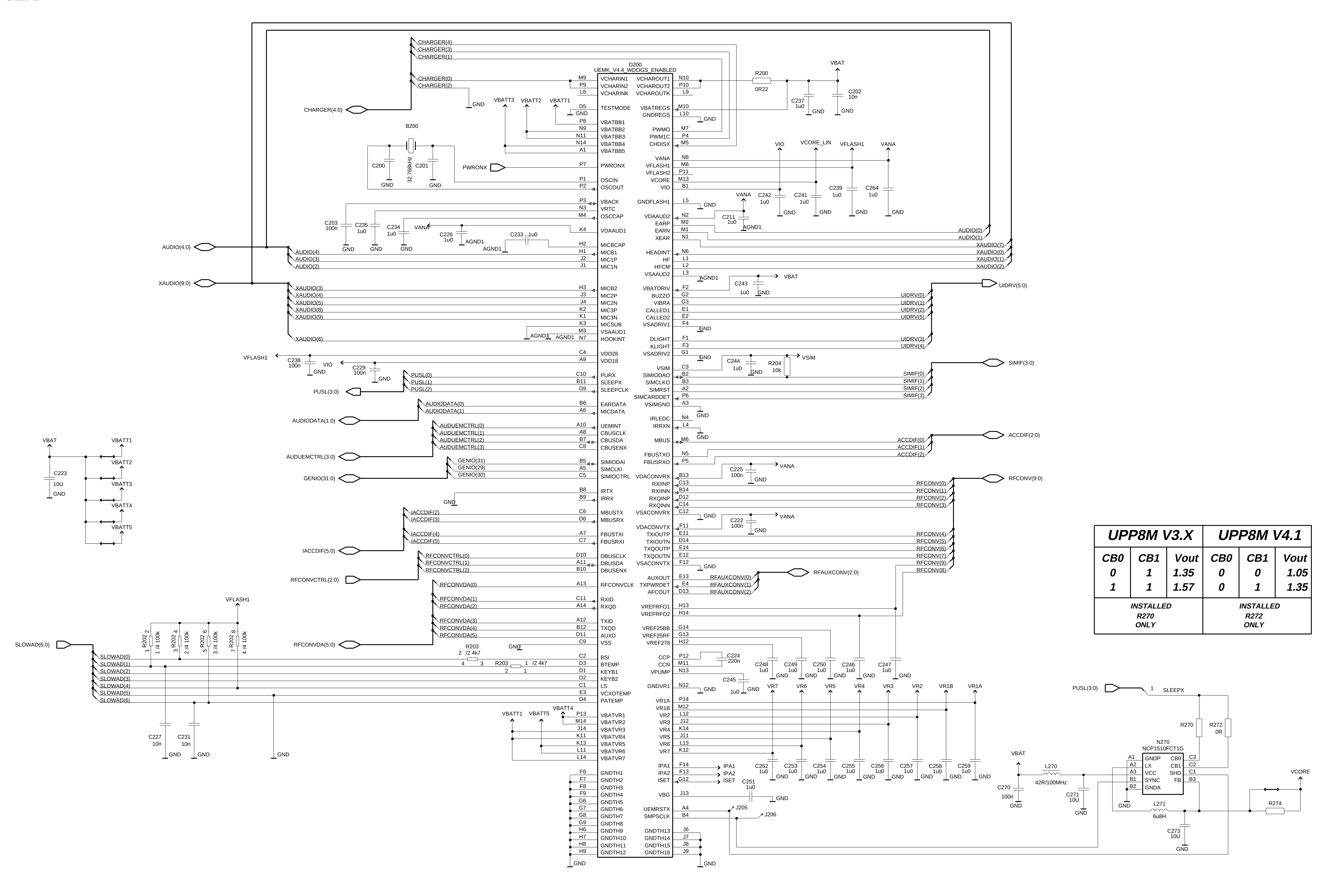
UHF Synthesizer



Top Level

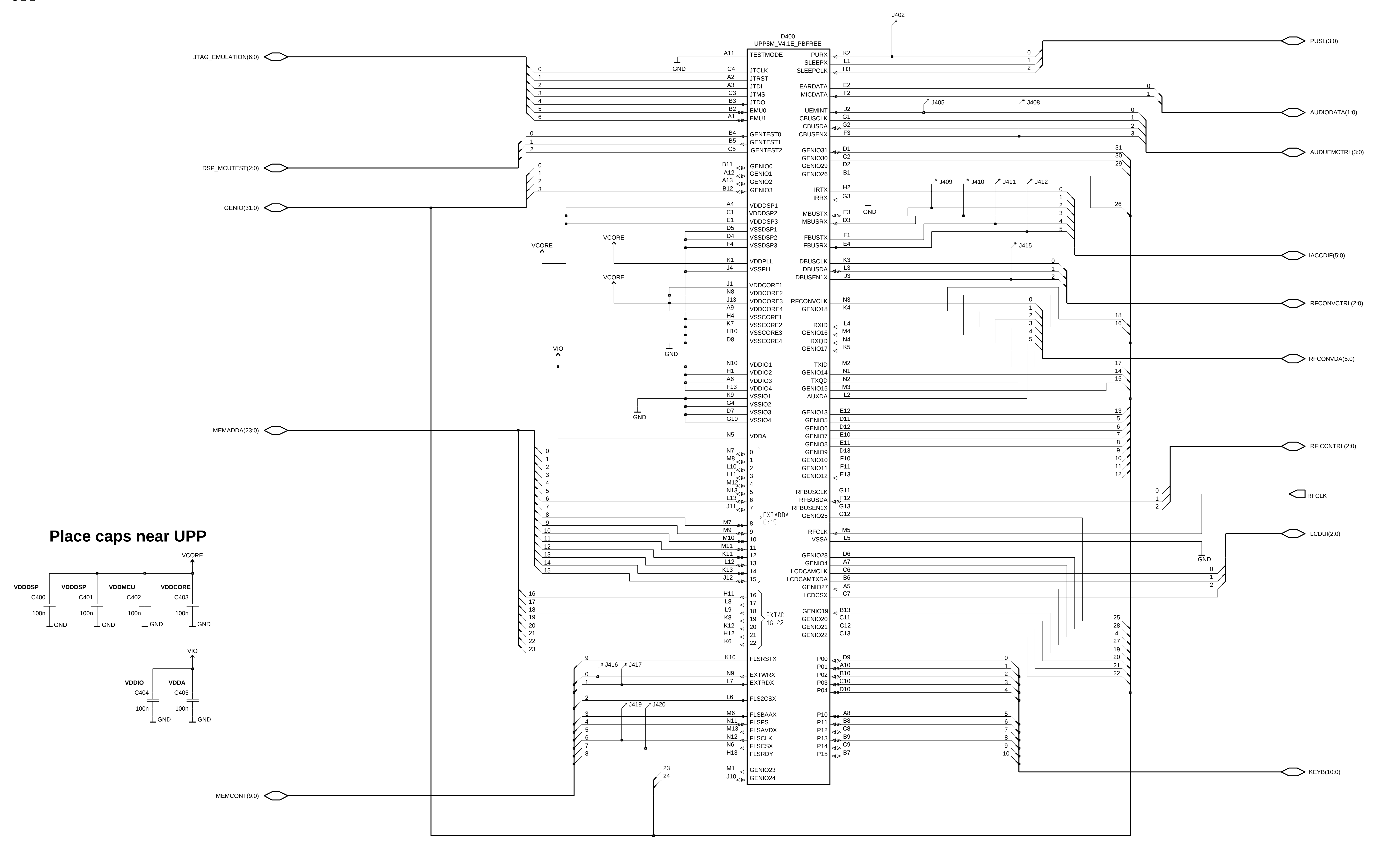

RF
SYS
GENIO_O(31:0)
RFCLK_I
RFCONV_O(9:0)
SLOWAD_O(6:0)
PUSL_O(3:0)
RFAUXCONV_O(2:0)
RFICCNTRL_O(2:0)
07 TX_AGC1
26 TX_AGC2
09 RF_IF_AGC
25 SYNTH_LE
08 TX_GATE
RF_CLK192M_UPP_RF
9 VREFRF01
0 RX_IP_RF
1 RX_IN_RF
2 RX_QP_RF
3 RX_QN_RF
4 TX_IP_RF
5 TX_IN_RF
6 TX_QP_RF
7 TX_QN_RF
3 FALSE_DET
6 PA_TEMP
0 PURX
0 AUXDAC
1 PWROUT
2 AFC
0 RF_BUS_CLK
1 RF_BUS_DATA
2 RF_BUS_EN
TX_AGC1
TX_AGC2
RX_IF_AGC
SYNTH_LE
TX_GATE
CLK192M_UPP
VREFRF01
RX_IP
RX_IN
RX_QP
RX_QN
TX_IP
TX_IN
TX_QP
TX_QN
FALSE_DET
PA_TEMP
PURX
PA_BIAS
PWROUT
AFC
RF_BUS_CLK
RF_BUS_DATA
RF_BUS_EN
A001
GPS SHIELD ASSY DNS08628
A002
RX SHIELD ASSY DNS08631
A003
RX2 SHIELD ASSY DNS09011
A004
TX SHIELD ASSY DNS08645 RH-55
GND
X105
0.9mm
E107 E108 E109 E110 E111 E112
Mechanical Plated Thru Holes
5.0mm half HOLE
E1 E2
2.1mm half HOLE
E3 E4
2.3mm HOLE
E5 E6
E8, E9 are 2.0mm HOLE for alignment
E8 E9
AGND
AGND1

UEM

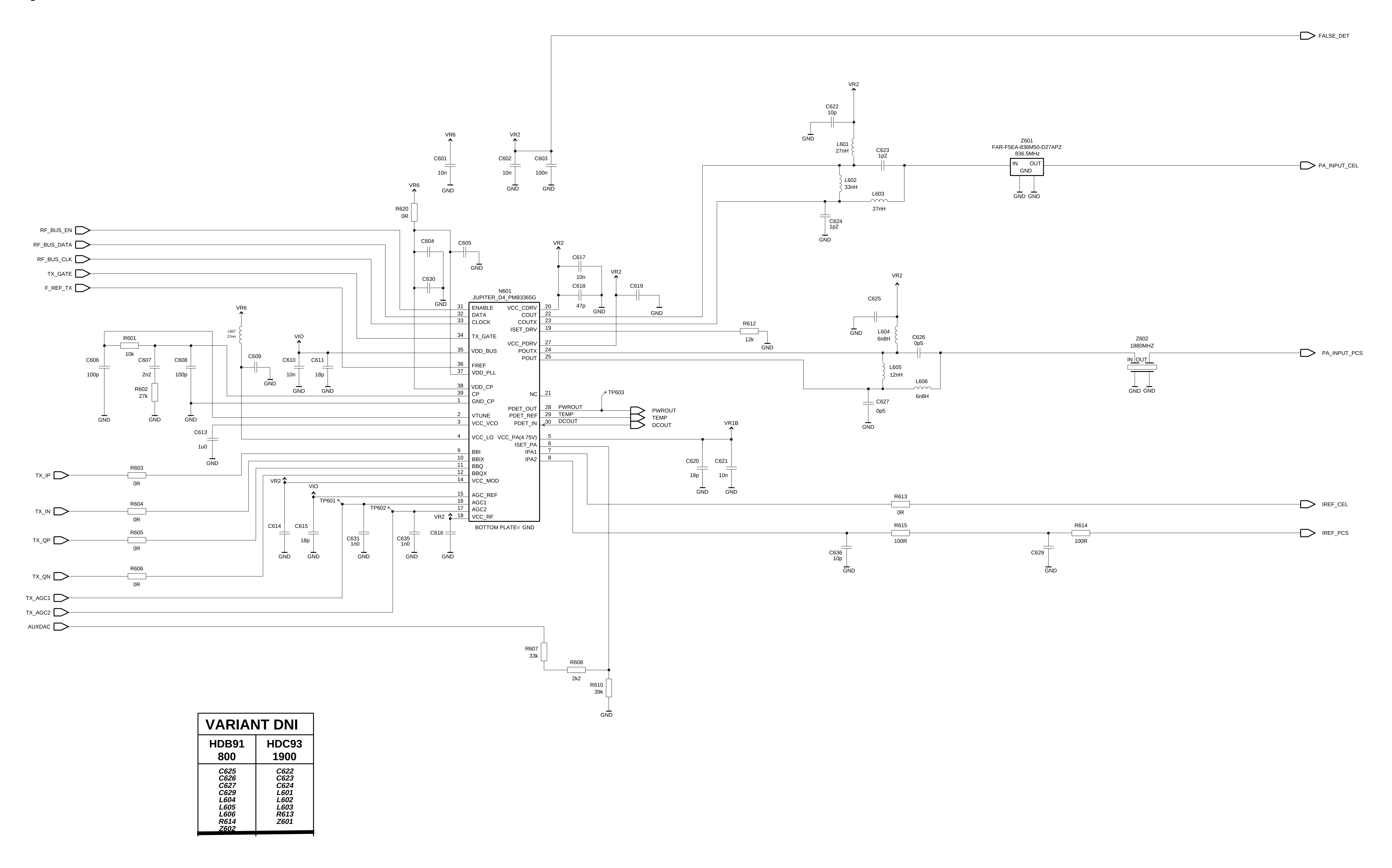


UPP8M V3.X			UPP8M V4.1		
CB0	CB1	Vout	CB0	CB1	Vout
0	1	1.35	0	0	1.05
1	1	1.57	0	1	1.35
INSTALLED R270 ONLY			INSTALLED R272 ONLY		

UPP

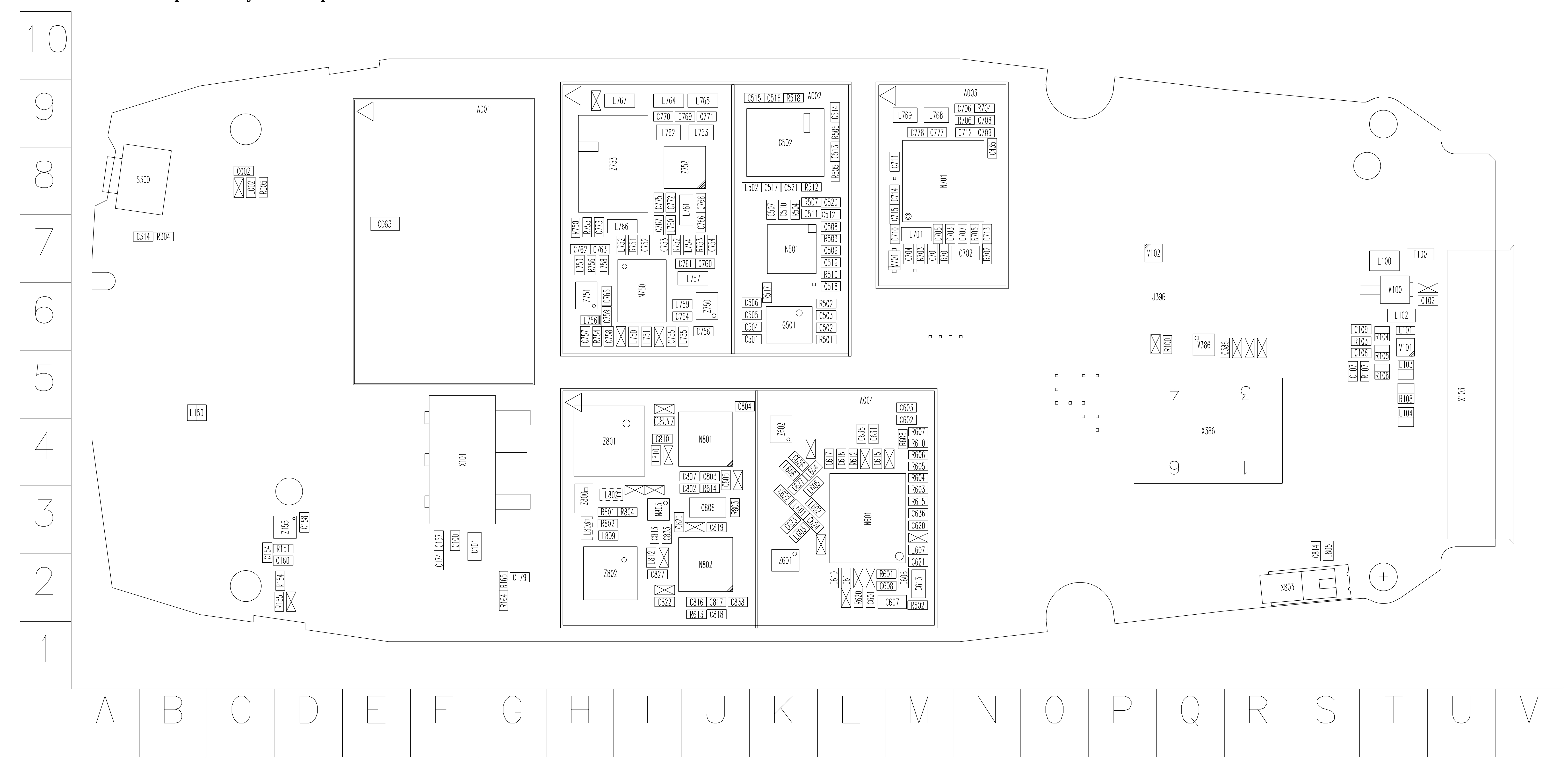

D400
UPP8M_V4.1E_PBFREE
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
GENIO(31:0)
MEMADDA(23:0)
MEMCONT(9:0)
PUSL(3:0)
AUDIODATA(1:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
RFICCNTRL(2:0)
RFCLK
LCDUI(2:0)
KEYB(10:0)
Place caps near UPP
VCORE
VIO
VDDDSP
VDDMCU
VDDCORE
VDDIO
VDDA
C400
C401
C402
C403
C404
C405
100n
GND

Jupiter

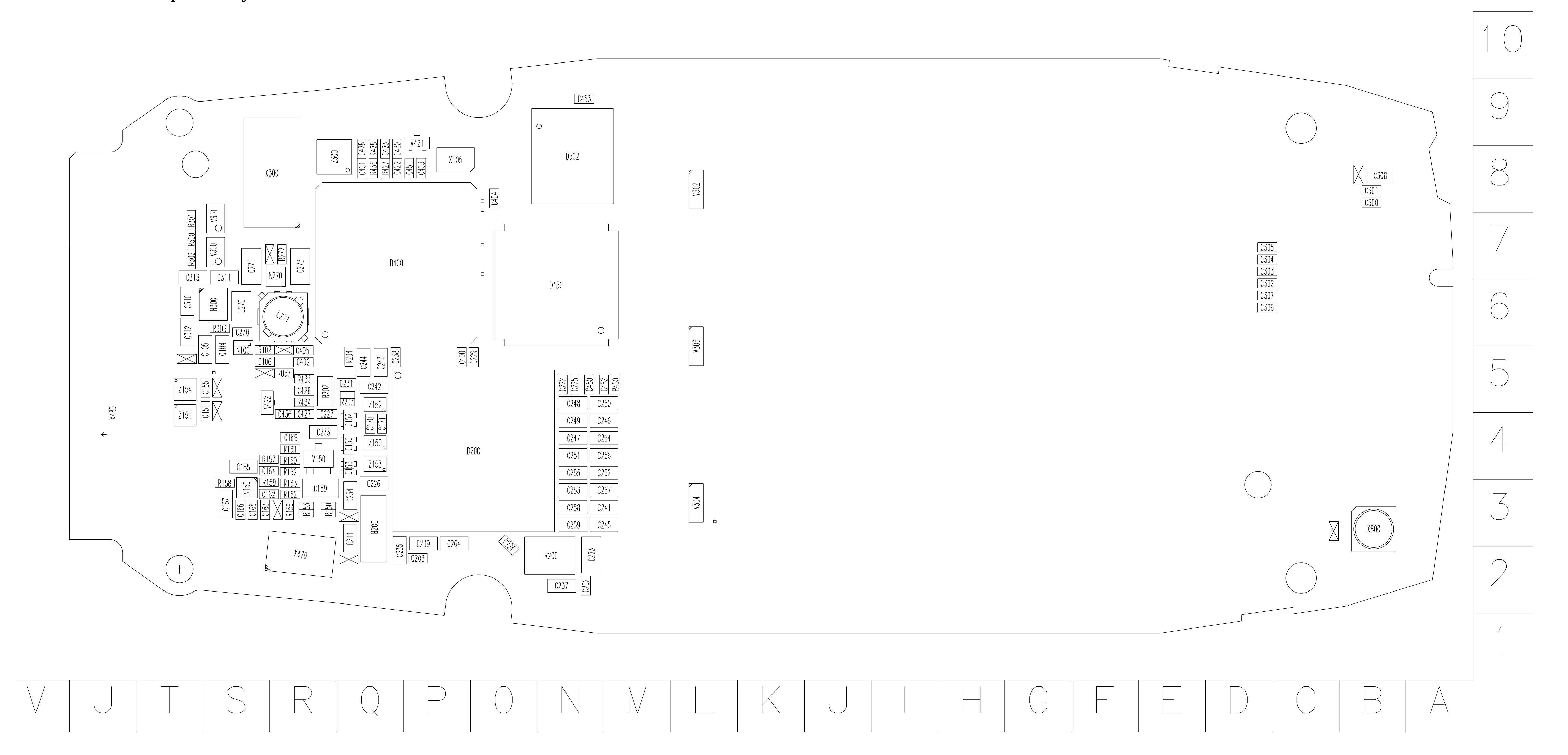


VARIANT DNI	
HDB91 800	HDC93 1900
C625	C622
C626	C623
C627	C624
C629	L601
L604	L602
L605	L603
L606	R613
R614	Z601
Z602	

6015 — 0202481 Component Layout — Top

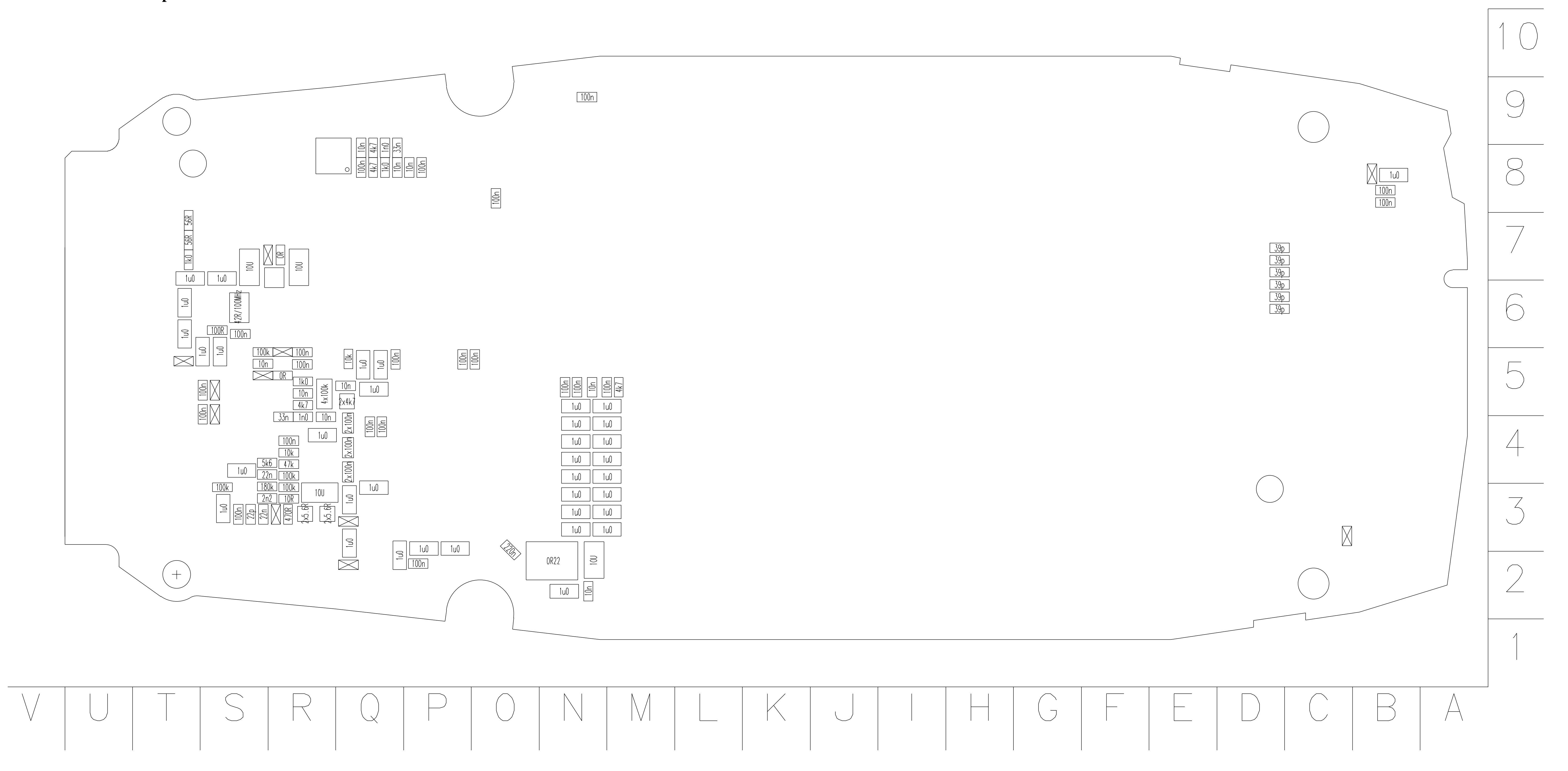


6015 — 0202481 Component Layout — Bottom

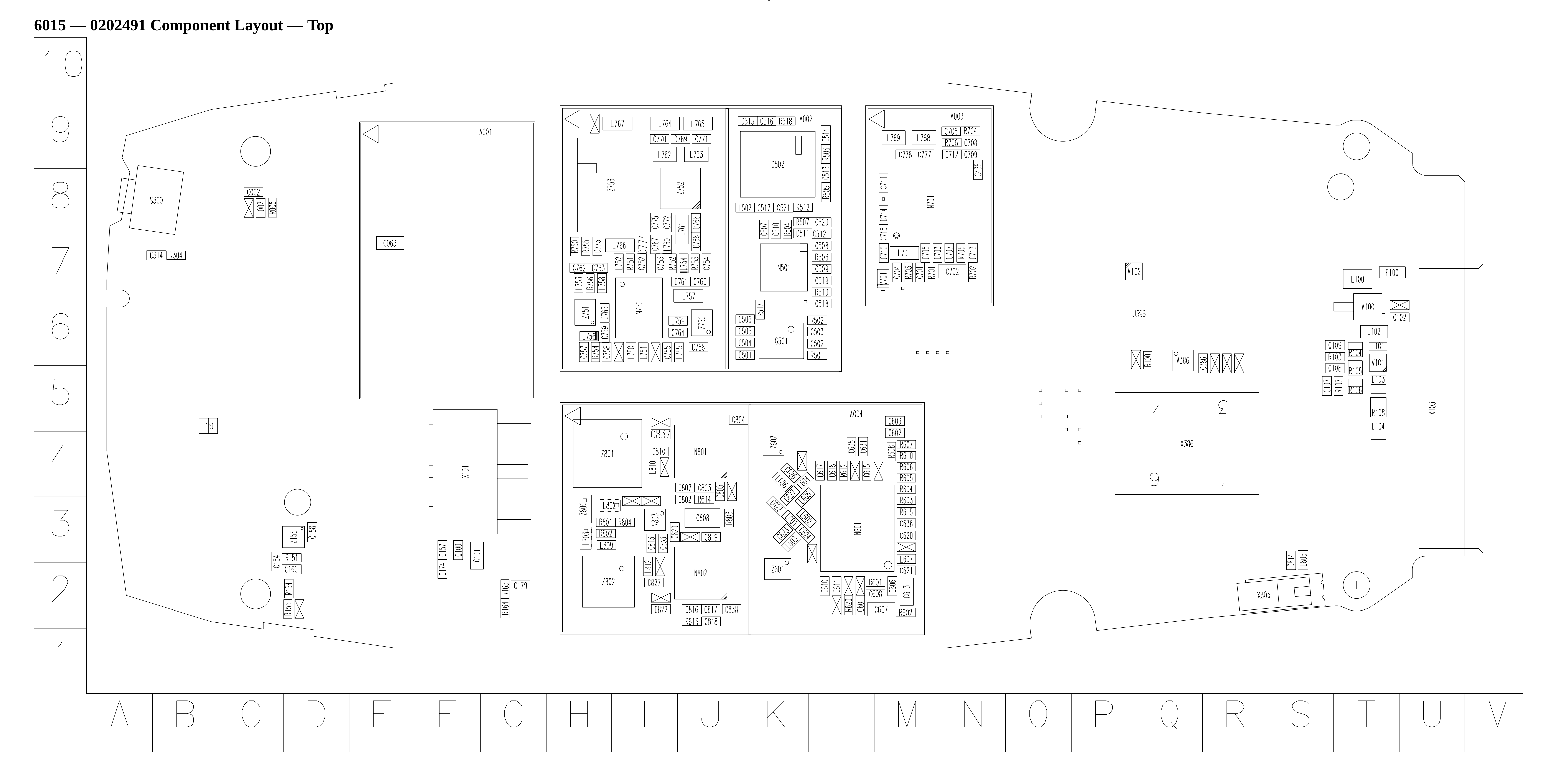


6015 — 0202481 Component Values — Top

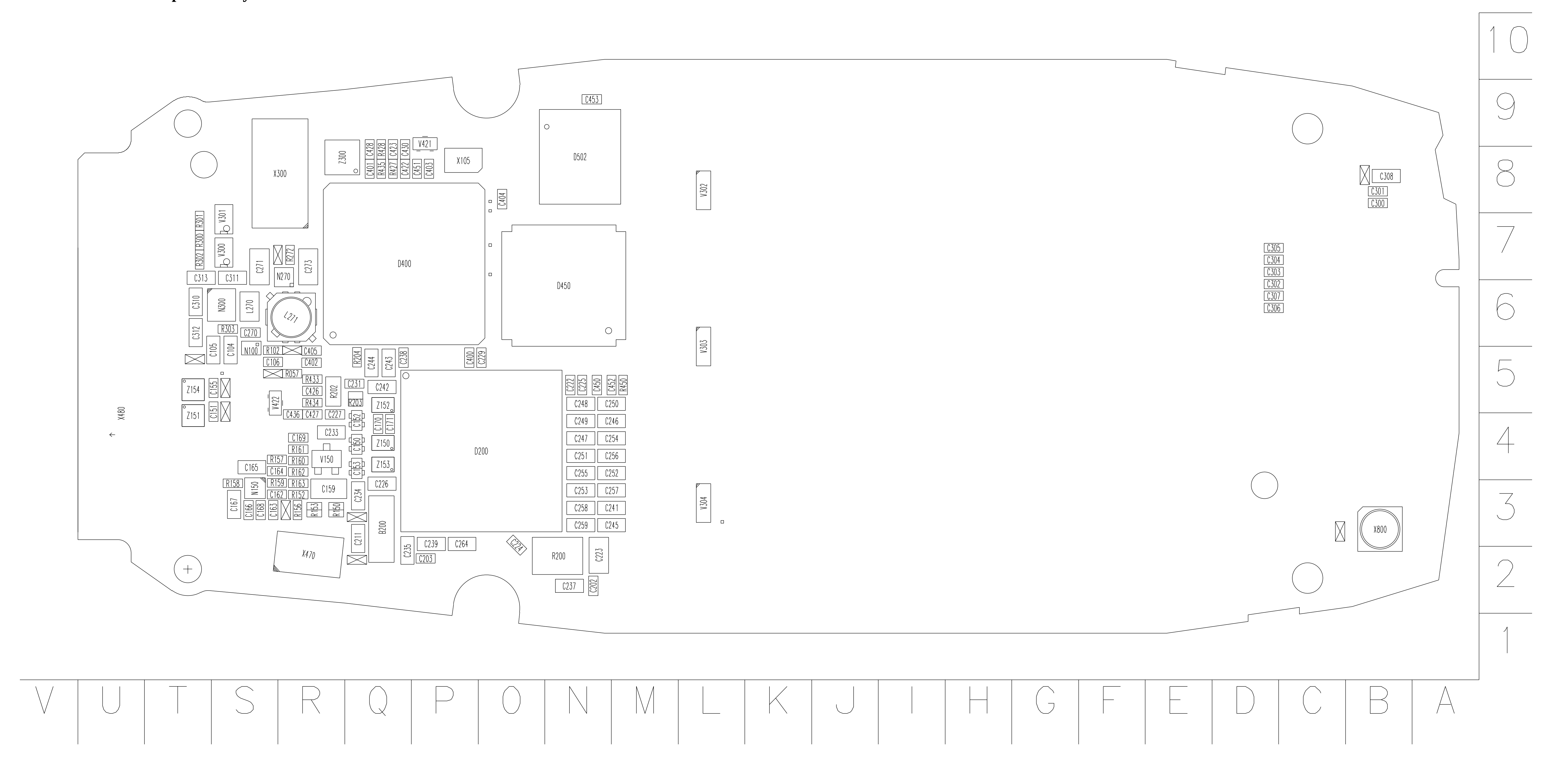
6015 — 0202481 Component Values — Bottom



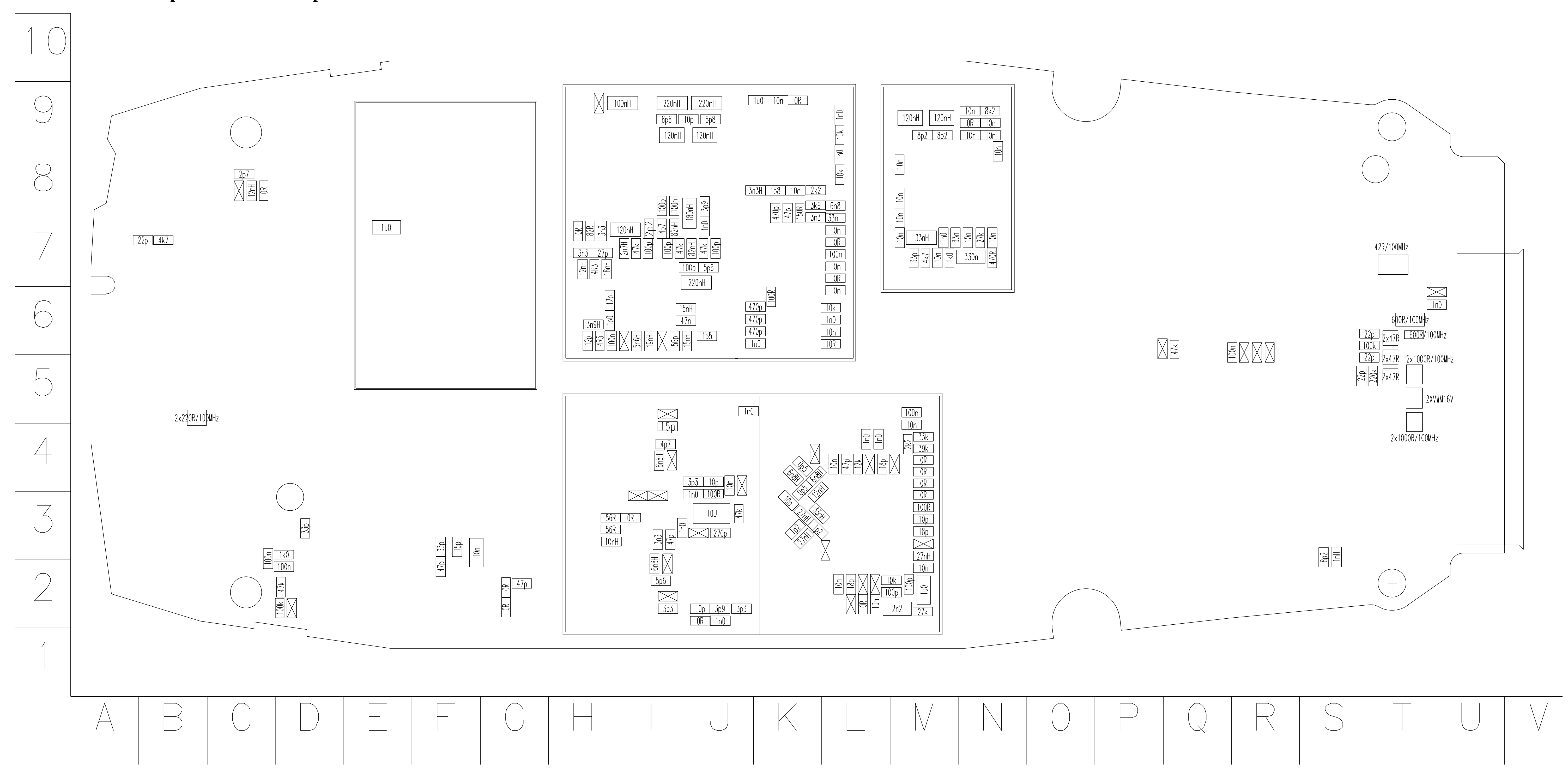
6015 — 0202491 Component Layout — Top



6015 — 0202491 Component Layout — Bottom



6015 — 0202491 Component Values — Top



6015 — 0202491 Component Values — Bottom

